

ABSTRACT OF THE DISCLOSURE

A compact, wide field of view, infrared imaging system with two Mid-Wave Infrared (MWIR) and, optionally, an additional one Long-Wave Infrared (LWIR) band, has a single, color corrected lens element embedded within the detector/dewar assembly. The lens element has two aspherical surface profiles and utilizes a holographic optical element to manipulate and detect bands of energy that are harmonic components of each other. The infrared imaging system simplifies and shrinks the MWIR/LWIR imager while maintaining all of the required functionality. An exemplary infrared imaging apparatus performs at an F-stop (F/#) of at least 1.4 with a square field of view of 90x90 degrees.

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